

PATENT CLAIMS

1. Pressure difference transducer, comprising a hydraulic body (1), in which is formed an overload chamber containing an overload membrane (13), which divides the overload chamber into a high-pressure chamber portion (20) and a low-pressure chamber portion (21); wherein the high-pressure chamber portion (20) communicates with a first hydraulic path (8, 10), which extends between a first diaphragm seal and a high-pressure side of a pressure measuring cell (12), and the low-pressure chamber portion (21) communicates with a second hydraulic path (9, 11), which extends between a second diaphragm seal and a low-pressure side of the pressure measuring cell, characterized in that the low-pressure chamber portion has an essentially convex, membrane bed, against which the overload membrane lies in a rest position.
2. Pressure difference transducer as claimed in claim 1, wherein the overload membrane (13) is pre-stressed over the convex membrane bed.
3. Pressure difference transducer as claimed in claim 1 or 2, wherein the overload membrane (13) is not deflectable by high-pressure-side overloads.
4. Pressure difference transducer as claimed in claim 2 or 3, wherein the overload membrane (13) is not deflectable by low-pressure-side overloads below a threshold value.
5. Pressure difference transducer as claimed in one of the preceding claims, wherein the first and second diaphragm seals each comprise a diaphragm seal body which has a membrane bed (18, 19), over which is secured a separating membrane (4, 5), which can be loaded with a pressure to be measured, wherein between the separating membrane (4, 5) and the diaphragm seal body a pressure chamber (16, 17) is formed, which communicates with a hydraulic path (8, 9, 10, 11), via which the pressure measuring cell (12) can be loaded with a pressure prevailing in the pressure chamber (16, 17).

6. Pressure difference transducer as claimed in claim 5, wherein the diaphragm seal bodies of the first and second diaphragm seals are formed as one piece with the hydraulic body (1).

7. Pressure difference transducer as claimed in claim 5, wherein the diaphragm seal bodies of the first and second diaphragm seals are arranged separately from the hydraulic body, and are connected with it via pressure lines.